

AMENDED CLAIM SET

The claims have been amended as follows:

1. (original) A device for controlling an imaging lens position, which performs a control of focusing based on a distribution of high-frequency components of image signals in a frame, which is acquired according to a focus lens position, comprising:

an acquirer for information relating to a lens position of a peak focus, which acquires information relating to a lens position of a peak focus, which indicates a focus lens position, in which an integration value of said high-frequency component in a predetermined area in said frame assumes a peak;

a first storage, which stores information relating to a distribution of high-frequency components, which indicates a distribution of said high-frequency components at a focus lens position indicated by the information relating to a lens position of a peak focus, in which the information relating to a distribution of high-frequency components is correlated with the information relating to a lens position of a peak focus, which is acquired by the acquirer for information relating to a lens position of a peak focus;

an acquirer for selection information, which acquires selection information indicating which information relating to a distribution of high-frequency components stored by the first storage is selected based on the information relating to a distribution of high-frequency components stored by the first storage; and

a determinator for an imaging lens position, which determines an imaging lens position, a focus lens position for imaging, based on the information relating to a lens position of a peak focus correlated with the information relating to a distribution of high-frequency components and

stored in the first storage, wherein the selection information acquired by the acquirer for selection information indicates that the information relating to a distribution of high-frequency components has been selected.

2. (currently amended) The device for controlling an imaging lens position according to Claim 1, wherein

information relating to a distribution of high-frequency components indicates the size of a high-frequency component corresponding to respective positions of a predetermined area in a frame; and

~~an acquirer~~ said acquirer for selection information comprises:

~~a means~~ means for computing a high-frequency component index, which computes a high-frequency component indicating a distribution of high-frequency components in a relationship with a predetermined position in the frame; and

~~a means~~ means for generating selection information dependent on a high-frequency component index, which generates selection information based on the high-frequency component index.

3. (currently amended) The device for controlling an imaging lens position according to Claim 2, wherein

~~a means~~ said means for computing a high-frequency component index comprises:

a scanner, which starts scanning information relating to a distribution of high-frequency components in a predetermined position in a frame as a starting position for scanning.

4. (currently amended) The device for controlling an imaging lens position according to Claim 3, wherein

~~a means~~ said means for computing a high-frequency component index computes information relating to an increase of integration, which indicates an increase of integration value of an image signal along a scanning path of a scanner; and

~~a means~~ said means for generating selection information dependent on a high-frequency component index generates selection information for selecting information relating to a distribution of high-frequency components having the largest increase according to information relating to an increase of integration.

5. (currently amended) The device for controlling an imaging lens position according to Claim 3, wherein

~~a means~~ said means for computing a high-frequency component index computes information relating to an amount of scanning as a high-frequency component index, which indicates an amount of scanning by a scanner until the maximal value of a high-frequency component of an image signal appears; and

~~a means~~ said means for generating selection information dependent on a high-frequency component index generates selection information for selecting information relating to a distribution of high-frequency components having the smallest value of information relating to the amount of scanning.

6. (currently amended) The device for controlling an imaging lens position according to Claim 2, wherein

~~a high-frequency~~ the high-frequency component index is barycentric deviation information indicating a distance between a barycentric position of a high-frequency component and a predetermined position; and

~~a means-said means~~ for generating selection information dependent on a high-frequency component index, which generates selection information for selecting information relating to a distribution of high-frequency components having the smallest value of the barycentric deviation information.

7. (currently amended) The device for controlling an imaging lens position according to any one of Claims 2 to 6, ~~wherein a~~ wherein the predetermined position is a central point of a frame.

8. (currently amended) The device for controlling an imaging lens position according to any one of Claims 2 to 6, ~~comprising-further comprising:~~

a setting unit for a predetermined position, which ~~sets a~~ sets the predetermined position.

9. (currently amended) The device for controlling an imaging lens position according to Claim 1, wherein

~~the~~ the information relating ~~to a~~ to the distribution of high-frequency components indicates ~~the size~~ a size of a high-frequency component corresponding to respective positions of a predetermined area in a frame; and

~~an acquirer~~ said acquirer for selection information comprises:

~~a means~~ means for displaying an image ~~of a~~ of the distribution of high-frequency components, which displays information relating to a distribution of high-frequency components as an image stored ~~in a first~~ in said first storage; and

~~a means~~ means for inputting a selection, which acquires selection information from an operator based on the image ~~of a~~ of the distribution of high-frequency components displayed by said means for displaying an image of a distribution of high-frequency components.

10. (original) A device for controlling an imaging lens position, which performs a control of focusing based on a distribution of high-frequency components of image signals in a frame, which is acquired according to a focus lens position, comprising:

an acquirer for information relating to a lens position of a peak focus, which acquires information relating to a lens position of a peak focus, which indicates a focus lens position, in which an integration value of said high-frequency component in a predetermined area in said frame assumes a peak;

a computer for a high-frequency component index, which computes a high-frequency component index indicating a distribution of said high-frequency component in a relationship with a predetermined position in the frame;

a second storage, which stores a high-frequency component index, which is computed by the computer for a high-frequency component index at a focus lens position indicated by the information relating to a lens position of a peak focus, in which the high-frequency component index is correlated with the information relating to a lens position of a peak focus, which is acquired by the acquirer for information relating to a lens position of a peak focus;

an acquirer for selection information, which acquires selection information indicating which high-frequency component index stored by the second storage is selected based on the high-frequency component index stored by the second storage; and

a determinator for an imaging lens position, which determines an imaging lens position, a focus lens position for imaging, based on the information relating to a lens position of a peak focus correlated with the high-frequency component index and stored in the second storage, wherein the selection information acquired by the acquirer for selection information indicates that the high-frequency component index has been selected.

11. (currently amended) The device for controlling an imaging lens position according to any one of ~~Claims 1 to 10~~Claims 1-6, 9, and 10, wherein an image signal is a luminance signal.

12. (currently amended) The device for controlling an imaging lens position according to any one of ~~Claims 1 to 10~~ Claims 1-6, 9, and 10, wherein an image signal is a signal acquired from one or a combination of RGB signals.

13. (currently amended) The device for controlling an imaging lens position according to any one of ~~Claims 1 to 10~~ Claims 1-6, 9, and 10, wherein an image signal is a signal acquired from one or a combination of CMYG signals.

14. (currently amended) A method for controlling an imaging lens position, which performs a control of focusing based on a distribution of high-frequency components of image signals in a frame acquired according to a focus lens position, comprising:

~~a step of~~ acquiring information relating to a lens position of a peak focus, which acquires information relating to a lens position of a peak focus, which indicates a focus lens position, in which a integration value of said high-frequency component in a predetermined area in said frame assumes a peak;

~~a first step of storing, which stores information~~ storing information relating to a distribution of high-frequency components, which indicates a distribution of said high-frequency component at a focus lens position indicated by the information relating to a lens position of a peak focus, in which the information relating to a distribution of high-frequency components is correlated with the information relating to a lens position of a peak focus, which is acquired by the step of acquiring information relating to a lens position of a peak focus;

~~a step of acquiring~~ selection information, which acquires selection information indicating which information relating to a distribution of high-frequency components stored by the step of storing is selected based on the information relating to a distribution of high-frequency components stored by the step of storing; and

~~a step of determining~~ an imaging lens position, which determines an imaging lens position, a focus lens position for imaging, based on the information relating to a lens position of a peak focus correlated with the information relating to a distribution of high-frequency components and stored by the step of storing, in which the selection information acquired by the step of acquiring selection information indicates that the information relating to a distribution of high-frequency components has been selected.

15. (currently amended) A method for controlling an imaging lens position, which performs a control of focusing based on a distribution of high-frequency components of image signals in a frame, which is acquired according to a focus lens position, comprising:

~~a step of acquiring~~ information relating to a lens position of a peak focus, which acquires information relating to a lens position of a peak focus, which indicates a focus lens position, in which an integration value of said high-frequency component in a predetermined area in said frame assumes a peak;

~~a step of computing~~ a high-frequency component index, which computes a high-frequency component index indicating a distribution of said high-frequency component in a relationship with a predetermined position in the frame;

~~a second step of storing, which stores~~ storing the high-frequency component index, which is computed by the step of computing high-frequency component index at a focus lens position indicated by the information relating to a lens position of a peak focus, in which the high-frequency component index is correlated with the information relating to a lens position of a peak focus, which is acquired by the step of acquiring information relating to a lens position of a peak focus;

~~a step of acquiring selection information, which acquires selection information indicating which high-frequency component index stored by the step of storing is selected based on the high-frequency component index stored by the step of storing; and~~

~~a step of determining an imaging lens position, which determines an imaging lens position, a focus lens position for imaging, based on the information relating to a lens position of a peak focus correlated with the high-frequency component index and stored by the step of storing, in which the selection information acquired by the step of acquiring selection information indicates that the high-frequency component index has been selected.~~

16. (currently amended) A device for controlling an imaging lens ~~position~~ comprising: position, comprising:

an acquirer for an image signal, which acquires an image signal from a large frame region in an imaging region and from a small frame region, which is a portion of the large frame region, in which the large frame region and the small frame region are correlated with a focus lens position;

an acquirer for contrast information, which acquires contrast information indicating contrast from said image signal, which is correlated with said focus lens position;

an acquirer for information relating to a lens position of a peak focus, which acquires information relating to a lens position of a peak focus indicating a focus lens position having a peak indicated by said contrast information; and

a determinator for an imaging focus lens position, which determines suitable focus lens position for ~~imaging; wherein~~ imaging, wherein

said determinator for an imaging focus lens position determines an imaging focus lens position if information relating to a lens position of a peak focus is acquired from said small frame region, based on that information relating to a lens position of a peak focus, and if information relating to a lens position of a peak focus is not acquired from said small frame region, based on information relating to a lens position of a peak focus of said large frame region.

17. (currently amended) The device for controlling an imaging lens position according to Claim 16, wherein ~~an image~~ the image signal is a luminance signal.

18. (currently amended) The device for controlling an imaging lens position according to ~~Claims 16~~ Claim 16, wherein ~~an image~~ the image signal is a signal acquired from one or a combination of RGB signals.

19. (currently amended) The device for controlling an imaging lens position according to ~~Claims 16~~Claim 16, wherein an image signal is a signal acquired from one or a combination of CMYG signals.

20. (currently amended) The device for controlling an imaging lens position according to any one of Claims 16 to 19, wherein said small frame region is arranged in the central portion of said large frame region.

21. (currently amended) The device for controlling an imaging lens position according to any one of Claims 16 to ~~19~~further comprising 19, further comprising:

a changer for arrangement, which changes the arrangement of at least one of said small frame region ~~and/or large~~ and large frame region.

22. (currently amended) The device for controlling an imaging lens position according to ~~any one of Claims 20 or 21 comprising~~ Claim 20, further comprising:

a changer for shape of region, which changes at least one of the size ~~and/or aspect~~ and aspect ratio of said small frame region and/or large frame region.

23. (currently amended) The device for controlling an imaging lens position according to any one of ~~Claims 16 to 19~~Claims 16 to 18, wherein a plurality of said small frame regions is arranged in one of said large frame regions.

24. (original) The device for controlling an imaging lens position according to Claim 23, wherein a plurality of said large frame regions are arranged in an imaging region.

25. (currently amended) 25. A device for controlling an imaging lens position comprising:

an acquirer for an image signal, which acquires image signals from a large frame region in an imaging region, from a small frame region, which is a portion of the large frame region, and from a middle frame region, which includes said small frame region and is included in said large frame region, in which the large frame region, the small frame region, and the middle frame region are correlated with a focus lens position;

an acquirer for contrast information, which acquires contrast information indicating contrast from said image signal, which is correlated with said focus lens position;

an acquirer for information relating to a lens position of a peak focus, which acquires information relating to a lens position of a peak focus indicating a focus lens position having a peak indicated by said contrast information; and

a determinator for an imaging focus lens position, which determines suitable focus lens position for imaging, wherein

said determinator for an imaging focus lens position, which determines an imaging focus lens position based on information relating to a lens position of a peak focus of said small frame region if the information relating to a lens position of a peak focus is acquired from said small frame region, which determines an imaging focus lens position based on information relating to a lens position of a peak focus of said middle frame region if the information relating to a lens

position of a peak focus is not acquired from said small frame region, and which determines an imaging focus lens position based on information relating to a lens position of a peak focus of said large frame region if the information relating to a lens position of a peak focus is not acquired from said middle frame region.

~~A device for controlling an imaging lens position, comprising:~~
~~a middle frame region, which includes said small frame region and is included in said large frame region;~~
~~said acquirer for an image signal; and~~
~~said acquirer for contrast information; wherein~~
~~an image signal of said middle frame region is processed similarly to signals of said small and of said large frame region; and~~
~~said determinator for an imaging focus lens position determines an imaging lens position in the order of the small frame region, the middle frame region, and the large frame region according to priority.~~

26. (original) The device for controlling an imaging lens position according to Claim 25, wherein said middle frame region comprises a plurality of middle frame regions having a further inclusive relationship.

27. (new) The device for controlling an imaging lens position according to claim 7, wherein an image signal is a luminance signal.

28. (new) The device for controlling an imaging lens position according to claim 8, wherein an image signal is a luminance signal.

29. (new) The device for controlling an imaging lens position according to claim 7, wherein an image signal is a signal acquired from one or a combination of RGB signals.

30. (new) The device for controlling an imaging lens position according to claim 8, wherein an image signal is a signal acquired from one or a combination of RGB signals.

31. (new) The device for controlling an imaging lens position according to claim 7, wherein an image signal is a signal acquired from one or a combination of CMYG signals.

32. (new) The device for controlling an imaging lens position according to claim 8, wherein an image signal is a signal acquired from one or a combination of CMYG signals.

33. (new) The device for controlling an imaging lens position according to claim 21, further comprising:

a changer for shape of region, which changes at least one of the size and aspect ratio of said small frame region and/or large frame region.

34. (new) The device for controlling an imaging lens position according to claim 19, wherein a plurality of said small frame regions is arranged in one of said large frame regions.

35. (new) The device for controlling an imaging lens position according to claim 34, wherein a plurality of said large frame regions are arranged in an imaging region.